

Calohilara (Diptera: Empididae), newly recorded from China with description of one new species

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Abstract: Here the subgenus *Calohilara* Frey of the genus *Hilara* is raised to the generic level by having the unique characters such as male eyes narrowly separated on the face with the enlarged anterior ommatidia, male and female wings with distinct dark markings and R2+3 strongly bent. The following three new combinations are established: *Calohilara elegans* (Frey, 1952), **comb. nov.**, *Calohilara kambaitiensis* (Frey, 1952), **comb. nov.**, and *Calohilara pulchella* (Frey, 1952), **comb. nov.** This genus is newly recorded from China. One new species, *Calohilara tibetensis* **sp. nov.**, is described. A key to world species of *Calohilara* is provided.

Key words: Empidinae; taxonomy; key

弯脉喜舞虻属 *Calohilara*——中国新记录及一新种记述（双翅目：舞虻科）

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摘要：喜舞虻属 *Hilara* 中的弯脉喜舞虻亚属 *Calohilara* Frey 具有雄复眼在颜上窄地分开且前面的小眼面扩大、雌雄翅具有显著的暗斑和径脉 R2+3 强烈弯曲等独特的鉴别特征。本文把该亚属提升为属，并建立如下 3 个新组合：*Calohilara elegans* (Frey, 1952), **comb. nov.**, *Calohilara kambaitiensis* (Frey, 1952), **comb. nov.** 和 *Calohilara pulchella* (Frey, 1952), **comb. nov.**。首次发现该属在我国有分布，记述 1 新种西藏弯脉喜舞虻 *Calohilara tibetensis* **sp. nov.**，并编制分种检索表。

关键词：舞虻亚科；分类；检索表

Introduction

The genus *Hilara* Meigen, 1822 is the largest genus in the subfamily Empidinae with 389 known species worldwide. It is the only cosmopolitan genus of the tribe Hilarini and at the same time has the only Holarctic representative of this tribe (Chvála 2005; Yang *et al.* 2007; Xiao & Yang 2019). *Calohilara* had been considered as a subgenus of *Hilara* with only 3 known species endemic to the Oriental Region (Frey 1952, 1955; Yang *et al.* 2007). During

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our study of Hilarini, we came across the specimens of *Calohilara* collected from Tibet. We found that they were very different from the known members of the genus *Hilara*. The male eyes are narrowly separated on the face with the enlarged anterior ommatidia, male and female wings had distinct dark markings and R2+3 was strongly bent. Thus, we raise *Calohilara* to the generic level with the following three new combinations: *Calohilara elegans* (Frey, 1952) **comb. nov.**, *Calohilara kambaitiensis* (Frey, 1952), **comb. nov.**, and *Calohilara pulchella* (Frey, 1952), **comb. nov.** This genus is also recorded from China for the first time with a description of one new species, *Calohilara tibetensis* **sp. nov.**

Material and methods

The specimens were examined and illustrated with ZEISS Stemi 2000–c. Genitalic preparations were made by macerating the apical portion of the abdomen in warm 10% NaOH for about 20 min. After examination, specimens were transferred to fresh glycerine and stored in a microvial pinned below the specimen. The specimens examined were deposited in the Entomological Museum of China Agricultural University (CAU), Beijing. The following abbreviations are used: acr — acrostichal; ad — anterodorsal; av — anteroventral; dc — dorsocentral; h — humeral; ih — inner humeral; npl — notopleural; oc — ocellar; pd — posterodorsal; ph — posthumeral; presc — prescutellar; psa — postalar; pv — posteroventral; sa — supraalar; sc — scutellar.

Taxonomy

Calohilara Frey, 1952, new record to China

Calohilara Frey, 1952: 124 (as subgenus of *Hilara*). Type species: *Hilara (Calohilara) elegans* Frey, 1952 (original designation).

Calohilara: Yang, Zhang, Yao & Zhang, 2007: 207.

Diagnosis. Bristles on head and thorax weak. Male eyes widely separated on frons, but somewhat contiguous on face; anterior ommatidia distinctly enlarged. Female eyes separated on face. Wing with distinct dark markings; R2+3 strongly bent. Surstylus curved forward, apically with very long bristles.

Remarks. This genus is easily separated from the remaining members of *Hilara*. In *Hilara*, male eyes lack enlarged ommatidia and are widely separated on both frons and face; R2+3 is nearly straight; and the surstylus is short-haired or bare (Chvála 2005; Xiao & Yang 2019).

Key to world species of *Calohilara*

1. Mesonotum uniformly black..... 2
- Mesonotum yellow with brownish black middle stripe..... *C. elegans*
2. Hind femur without spine-like ventral bristles 3
- Hind femur with spine-like ventral bristles..... *C. pulchella*
3. Hind femur nearly bare ventrally; fore tarsomere 1 strongly thickened with 1 long bristle
..... *C. kambaitiensis*
- Hind femur with ventral hairs including one row of av; fore tarsomere 1 weakly thickened without long

bristle *C. tibetensis*

***Calohilara tibetensis* sp. nov.** (Figs 1, 2)

Description. Male. Body length 3.1–3.4 mm. Wing length 3.4–3.6 mm.

Head dull black with greyish brown pollen; hairs and bristles blackish to black, bristles somewhat short and weak. Upper occiput with somewhat long postocular bristles. Eyes dark brown, somewhat widely separated on frons, narrowly separated on face; face narrowed downward. Ocellar tubercle weak, ocelli brownish, with 2 somewhat long oc and 4 short posterior hairs. 6 orb mostly short hair-like, only penultimate one slightly long (distinctly shorter than oc). Antenna nearly as long as head, brown except apical style dark brown; 1st segment dorsally and 2nd segment apically with black bristles; 3rd segment long subconical, 2.0–2.1 times longer than wide; apical style 1.1 times as long as 3rd segment. Proboscis 0.6 times as long as head height, brown to dark brown with blackish hairs; palpus dark brown with blackish hairs, apically with 1 very long blackish ventral bristle.

Thorax dull black with greyish brown pollen, but pleuron blackish except sternopleuron with brownish postero-dorsal spot and anterior margin of hypopleuron brownish. Hairs and bristles on thorax somewhat short, sparse, blackish to black. Propleuron with 2 somewhat long hairs, prosternum short-haired. Pronotum with 1 bristle laterally. H absent, ih absent, ph absent, 3 npl (anterior and posterior ones short, middle one rather long); acr and dc somewhat short, acr irregularly biseriate; dc uniseriate, nearly as long as acr; 2 presc, 1 sa, 1 psa; scutellum with 2–3 pairs of sc, basal pair relatively short and weak (about 1/3 as long as apical pair). Legs dark yellow to brownish-yellow except apical 1/2 of hind femur and hind tibia blackish with knee brownish-yellow, fore and mid tibiae dark brownish yellow; all tarsi dark brown except mid and hind tarsomeres 1–2. Hairs and bristles on legs blackish to black, bristles somewhat weak. Fore and mid femora each with a row of thin pv. Mid femur with 5–6 long ad, but without pv at extreme base. Hind femur without dorsal bristles, but with a row of short thin av and 1 long thin preapical anterior bristle. Fore tibia apically thickened with 5 bristles. Fore tarsomere 1 weakly thickened, 1.25–1.3 times thicker than fore tibia, 0.55–0.6 times as long as fore tibia, 1.05 times longer than fore tarsomeres 2–5. Fore tarsomere 1 without distinct dorsal bristles. Mid tibia with two rows of short ventral bristles and 5 apical bristles. Hind tibia with 4 pd and 3 apical bristles (1 long subapical pd). Wing brown, but apical 2/3 above vein R4+5 dark brown, with one pale spot each within cells r2+3 and r5 above crossvein m-m; veins dark brown. Halteres dark brown.

Abdomen nearly straight, dark brown with grey pollen except hypopygium blackish. Hypopygium distinctly swollen, distinctly thicker than pregenital segments. Hairs and bristles on abdomen blackish to black; tergites 1–6 each with long black bristles at posterior margin.

Male genitalia (Fig. 2). Epandrial lamella rather small, distinctly convex dorsally; surstylus separated by a narrow incision from epandrial lamella, basally rather thick, apically short finger-like with 2 very long bristles. Cercus apically somewhat acute. Hypandrium much swollen, mostly exposed; hypandrial process long, rod-like with trifurcated tip.

Female. Body length 3.4–3.6 mm. Wing length 3.4–3.6 mm. Fore tarsomeres 1–2 dark yellow.

Holotype. ♂, China, Tibet, Medog, Renqingbeng, 1950 m, 01-VI-2019, Qicheng YANG (CAU). **Paratypes.** 82♂178♀, same data as holotype (CAU).



Figure 1. *Calohilara tibetensis* **sp. nov.**, male habitus, lateral view.

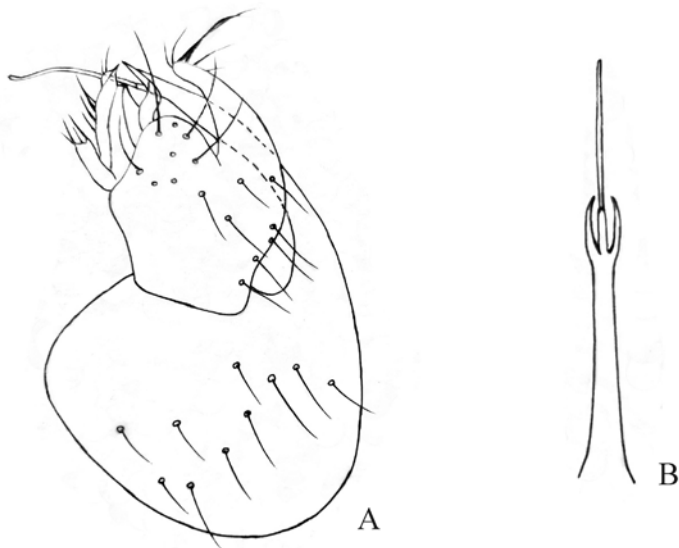


Figure 2. *Calohilara tibetensis* **sp. nov.** A. Male genitalia, lateral view; B. Hypandrial process and phallus, posterior view.

Diagnosis. Antenna brown to dark brown. Thoracic pleuron blackish except sternopleuron with a brownish postero-dorsal spot. Fore and mid femora with thin pv hair-like; hind femur with thin av hair-like. Hypandrial processes rod-like, apically trifurcated.

Remarks. This new species is somewhat similar to *Calohilara kambaitiensis* (Frey, 1952), **comb. nov.** from Myanmar, but can be separated from the latter by the hind femur with the ventral hairs including one row of av and fore tarsomere 1 weakly thickened without long bristle. In *Calohilara kambaitiensis*, the hind femur is nearly bare ventrally, and the fore tarsomere 1 is strongly thickened with 1 long bristle (Frey 1952).

Etymology. The species is named after the type locality Tibet.

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